

ORM

Bulletin issued by the Northern
Branches of the Wireless Institute
of Australia, Tasmanian Division.

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Tas. 7250

August 1976
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MEETINGS

August 10th North West Branch, Lakins Hall, Ulverstone. 8pm
August 13th Northern Branch, S.E.S. rooms, Charles St. 8pm

Y.R.C.S. MEETINGS

August 14 & 28 Kings Meadows High School, 10am

A.O.C.P. Classes

August 9th Kings Meadows High School
16th block B, room 35
23rd CW, 7.30 pm
30th Radio Theory, 8 pm

CONTESTS

August 14 & 15 REMEMBRANCE DAY CONTEST
August 28 & 29 All Asian CW contest
September 11 & 12 European Phone Contest
September 18 & 19 Scandinavian CW Contest

August 24th Deadline for the next issue of ORM

Notes from the Northern Branch by Norman VK7NR.

The president Brian VK7ZBY and 30 members were present at the July meeting of the Branch. Byron Dillworth was congratulated on passing the AOLCP and being allocated the call sign VK7ZBD, a call which is being used quite successfully on the repeater channel.

Johny Victor is still seeking articles for QRM and some news from the Ladies. Did you see last months Ladies Page effort ?

It is hoped that by the next meeting a progressive dinner will have been organised. This will possibly be free, but you will pay for it later at a Bingo Night, which is also being arranged.

Last months questionnaire in QRM regarding the clubrooms was reasonably well supported. Bill VK7TE has so far received 35 replies. Those not filling in forms will receive a visit from Bill. DID HE KNOCK ON YOUR DOOR ?

Ed VK7HE mentioned a new modular method of construction, which could bring down the cost of clubrooms if used.

It is amazing how many regulation books were sold at the meeting. This is a publication you must have. Ever known a Parson without a bible ? (Yeah, a Rabbi.)

Good news regarding the Hamfest site, Evandale council have approved a small number of sites that can have caravans parked on them, just behind the Hall. So if you are bringing up a caravan let Lindsay VK7ZLD know now and book your place, write him C/o P.O. Box 1010 Launceston. As these sites are only yards away from the Hall and are free, its first in first served.

John Beswick presented his application for a student membership, which was approved. Welcome John and good luck in future exams.

Heard the new VK7RAA ident yet? No complaints please, but its inventor can be congratulated, apparently it achieved the object of not annoying certain people on the ch4 to 80 m relay of the Sunday Broadcast. The idea is that 2800Hz doesn't get through the narrow filters of SSB transceivers during the rebroadcast. Most 80 metre listeners did not hear it on the first Sunday following its instalation, but one character did report key clicks and was about to tune the band to find the offender? Has he got a crook rig?

Mark Addison at Cosgrove Park listens to VK7RAA with an Icom generously loaned by Tony Polowy. So say "good day" to him when on air Also have you been in and had an eyeball QSO yet?.

If you did not get your application in by July 8th then you wont be sitting for the next AOCP exam. If you did then good luck and may you make it. VHF is a bit quiet lately, we could do with some more activity, CW classes these days can be heard on 27 MHz when conditions are right. It would appear certain gentlemen are keeping their hands in, pending the results of the first Novice exams. Some marked papers could help to curb this activity, or will it ?

cont. page 4

Notes from the North West Branch.

The monthly meeting was held in Lakins Hall Ulverstone Tuesday the 13th of July, commencing at 8 o'clock. With the President, Ian VK7ZIE and the secretary Max VK7MX in the chairs. This would be one of the best attended meetings we have had for a long time, the 28 members and 2 visitors present, although the night was cold and frosty it didn't stop the good turnout. I think this speaks for itself, as I have said before that the interest here in the North West Branch is now very keen.

The meeting opened with the president welcoming the 2 visitors, Paul Stott and Tony Smith. Then the secretary read the minutes of the last meeting, correspondence and the treasurers report, he then called for a motion for these to be passed which was duly done. The president then asked the various Branch officers for their reports on their jobs within the branch. Adrian VK7ZAT, the equipment officer, reports a lot of new stuff on order of which only about half has turned up. Winston VK7EM reported that everything was o.k. with the beacon. Harold VK7MZ reported that everything was o.k. in the QSL department, so everything seems to be running well in the Branch. Towards the end of the meeting the president reminded all present of the forthcoming Hamfest at Evandale on the 13th and 14th of November. With a special request for VK7MX, VK7KH and associates Jim Davies and L Johnson to turn up.

If you will recall these are the members who in the sand at Port Sorell, at the mini Hamfest were the stars of the cricket match and were responsible for the trophy coming to the North West, the trophy was on display at the meeting.

The meeting closed at 8.35 pm and was followed by a very interesting and informative lecture by Pat VK7BW, an American from New York City who now lives and teaches at Latrobe. Pat lectured on 27 MHz activity in America, he also gave some comparison on life and prices compared to here and New York. It's quite amazing to learn of the amount of 27 MHz activity in the States today, really fantastic. Pat lectured in quite a professional manner and answered the many questions asked by the members present.

At the end of Pats lecture Max VK7MX thanked him on behalf of all the members present and himself and expressed the hope that Pat could again lecture us sometime in the future.

Supper was then served by the Burnie and Wynyard members and the evening closed at 10.45 pm. With the usual 2 metre activity by the members, mobile on their way home.

Lindsay Johnson

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FOR SALE; Multi 7, 23 channel 2 metre FM tranceiver, includes
12 sets of xtals (repeater 1,2,3,4,5, anti repeater
1,2,3,4,5, channel 40 and 50), Belling and Lee 1/4 λ
whip and microphone \$190.00
contact Phil Thompson, phone (work) 002-208684
(home) 002-285998

Northern Notes, continued from page 2.

Bob VK7ZRF is working on a Fox Hunt receiver but declined to express his thoughts at this time. Better hurry Bob or the season will be over.

Almost forgot to mention that professor Ellis will be giving a lecture in August. All members are invited and your scribe believes the subject is RADIO ASTROLOGY. Should be interesting. More details when date and venue are known.

Well that about winds up last months meeting notes, except to say that Ed VK7HE's lecture on Disaster Communication Principles raised a few eyebrows and had people wondering what mother tongue you should have to become a member of S.E.S. communications section. Plain English apparently is not acceptable.

At the next meeting Wal VK7ZWX will present two films both marked, for general exhibition.

73, see you at the S.E.S. rooms
on Friday 13th of August.

Norman VK7NR

We would all like to extend our congratulations to Ian VK7ZIE and XYL Lyn on the arrival of their daughter Jodie, their little harmonic and who knows perhaps sometime another on air member of the Ellings family. In fact she has already been on 2 metres, she was heard by an Ulverstone member the other day while being held up to the microphone by Daddy ZIE.

I'm told one of the first things she must learn is, how to operate and use that infernal washing machine, this will get Daddy out of untold trouble if Lyn is away sometime. Also Lyn, I feel you owe Graeme VK7ZAQ a big thanks, you could have had a big pile of washing to do when you arrived home from the hospital. Anyway good luck to you both with the family raising, stick to it and who knows, one of these times it may be two perhaps.

Lindsay Johnson

FOR SALE, Playmaster, quadraphonic amplifier 15W per channel \$150.00

P.E. turntable and base \$100.00

B&O cartridge, J&H belt drive turntable
and all balance arm \$65.00

RCA remote control unit \$8.00

6UP, 432MHz converter with AF139 pre-amp \$10.00

Marconi standard signal generator TF1446 \$30.00

16 el. Sun Yagi complete with matching
stub and 4:1 balun, ready to go. \$35.00

Joe Gelston VK7ZGJ, 40 Lavender Gr. phone 443882

HF and DX notes by Col VK7LZ

Although listening this month has been limited it does appear that conditions have been well below that of June.

The only DXpedition heard here was K5QHS/FH8 operating from the Comoro Islands on the 29th of June, 14 MHz SSB signals were 5/5 however this station is now QRT.

14 MHz. In the afternoon this band was usually open to W and VE with good strength signals, the Pacific Islands were also represented by VR1AF, VR8A, KJ6DL, VR3AH and VR3AK most afternoons.

Infrequent listening of an evening has also produced UAØ's and JA's with the one exception - JH1KSB/JD1 Minami Iorishima activates C.W. around 07.00 Z usually about 14.030 Mhz.

7 MHz. Was also down in activity, only 27 countries were heard against 39 the preceeding month and it appears to be necessary to be listening from approximately 05.00Z for Europe and Cetral on Northern South America. On SSB G3AOO and the odd European can be heard, usually in QSO with VK's on sked. On CW the best of those copied were;
0500 to 0530Z, HB9BAJ, SP2HJL, DK3FB, YU2CEJ, F3NB, F6ARC, VP1MPW, CE3AKX/TI2, GC2LU, YV4CB.

0530 to 0600Z, CO2SM, also W, VE, G, F, YV, EA.

0600 to 0700Z, YV3AGT, ZL3LN/C, YV1AD, 8P6GO, XE1BGM, FG7AM, HKØBKX, CM2VG.

Later in the evening its mostly W, VE, JA and UAØ. One gets the impression that lack of activity is more of a problem than conditions at times on this band.

3.5 MHz. From the odd listening periods it appears that JA's and W's can be QSO'ed during the local evenings on CW but the only unusual station copied was - YB7HB who was 449 at 1300Z on the 1st of July.

1.8 MHz. Very little DX heard, listening between 0900 and 1100Z the only stations logged were; VE7UZ, W1HGT, W4EX, WA8IJI and LU1DZ. JA3SVG/MM who is operating from an ore carrier (not whore) is also active on CW and has been QSO'ed by some VK7's but you have to listen for him between 1907.5 and 1912.5 MHz.

As the Seychelle Islands become independant this year and as the new administration will include the islands of Aldabra, Desroches and Farquhar there is a good possibility that these islands will be deleted from DXCC country status.

QSL information. KJ6DL via WB5HVV
VR1AF via W7OK
VR1AH via VK5JW
VP1MPW via W5QPX

YB7HB, P.O. Box 2761 Jakarta, Indonesia.

FG7AM, Box 957 Pointe a Pitre, Guadeloupe.

K5QHS/FH8, P.O. Box 2388 Hot Springs, Arkansas 71901 U.S.A.

VHF notes by Joe VK7ZGJ.

Although it is now mid winter VHF activity has been rather high. There have been several openings on 6 metres. On 27th June Kevin worked VK2ZKY, on 6th July the band opened to VK2, stations worked were VK2ZFB and VK5SU/2 in Moree, Kerry is using a 40 metre dipole. John VK7JV was also active and worked several stations.

Again on the 22nd July I worked VK2ZAY, VK5SU/2 and VK4ZTW. On the 20th July ZL TV was watchable for about 1 hour between 2000 and 2100 hours, I could not hear their beacon and no contacts were made.

2metres has been good with numerous openings via the repeater. At the bottom of the band VK3YJU was worked by Kevin VK7ZAH on the 16th July. On the 21st July there was a very good opening as VK3's BQR and ZXO were worked, a 6 - 2 metre crossband QSO lasted for over an hour between VK7ZAH and VK3ZXO. Allen VK2ZEO in Deniliquin worked Max VK7MX and Winston VK7EM on ch 40. Ron VK3AKC was worked on the 22nd July by Kevin VK7ZAH.

432 MHz, John VK7JV is now active on this band, running approximately 200 mW to a 16 el. Yagi. We worked on the 4th July exchanging 5/5 - 5/9 reports, I was running a valve rig at the time but will soon be active with about 25 W solid state.

73 till next month

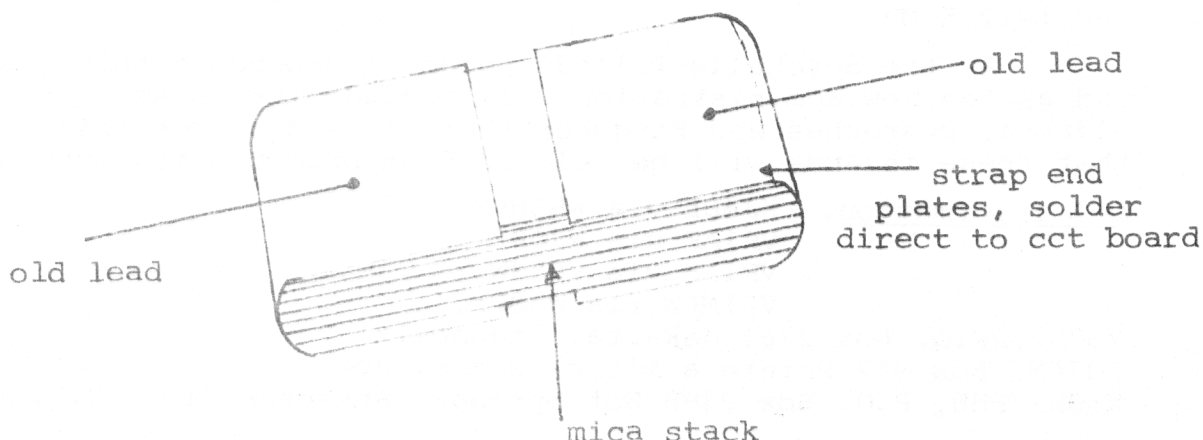
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Capacitors suitable for high power RF solid state amps.

In most application notes a reference is made to "metal clad mica capacitors" these are expensive and very hard to obtain in VK, typically \$1.50 to \$1.80 each.

It appears these items are only mica capacitors with very heavy strap leads and a thin varnish or wax protective cover. Removing from the junk box a few old mica capacitors and removing the brown bakelite cover it was found that the construction of these capacitors was very good for VHF low inductance use by just soldering the end plates direct to the circuit board.

Col VK7KW



PROGRESSIVE DINNER.

The progressive dinner will be held on the 4th of September, starting at 6.30pm at the QTH of Wally (VK7ZWX) and Shirley Morphett, with pre-dinner drinks and appetisers. The next course is soup (choice of two) at Ed (VK7HE) and Noeleen Hewens place, then to Gordon (VK7GW) and Moira Woods for the main course and to finish, sweets and drinks at the QTH of Reg (VK7KK) and Annette Emmett.

To cover costs there is a charge of \$5.00 per head. Tickets to the dinner will be sold at the August Branch meeting and thereafter will be available from the secretary Norman VK7NR up to the 21st August.

Annette Emmett (Mrs VK7KK) is interested in starting a Ladies Committee of the Northern Branch, with the view of organising social functions. First is the Hamfest which is just around the corner. Anyone interested please contact Annette. Phone 312090

Northern Branch Equipment Store.

See Daniel Apted our equipment store officer for your requirements. Components in stock include, transistors, resistors, capacitors, diodes, neosid (full range), VHF RF chokes, RF screening beads, coax connectors (BNC, PL series, B/L), single and double sided printed circuit board.

Kyokuto, 2 metre, synthesised FM transceiver as described in Amateur Radio July 1976, . This unit covers the entire band from 144.0 MHz to 148.0 MHz in five KHz steps and includes a 600 KHz offset, up or down, for repeater use. Frequency readout is LED digital. The store can obtain these units for you, cost is \$300.00

We still have a few meters left, 200 uA movement 80¢ each
Morse practice keys \$1.20 (5 only)

The equipment store also handles all orders for equipment as advertised by, Sideband Electronic Sales, Vicom and Amateur Communications Advancements, this includes orders for all types of HF and VHF transceivers, transverters, converters, aerials, frequency counters, CRO's, aerial rotators, crystals and crystal filters. Although costs are about the same as advertised, there are two advantages to the members, you don't have to pay for your purchases until you actually take possession and the Northern Branch gets a small commission to boost funds.

The store is also able to handle all subscriptions to amateur type magazines, technical books as handled by the WIA, logbooks and call books.

For further information contact the Equipment store officer Daniel Apted VK7ZDA, 31 Vale St. Phone 446886 or to P.O. Box 1010, Launceston.

TWO TONE OSCILLATOR, 700 Hz and 1700 Hz.

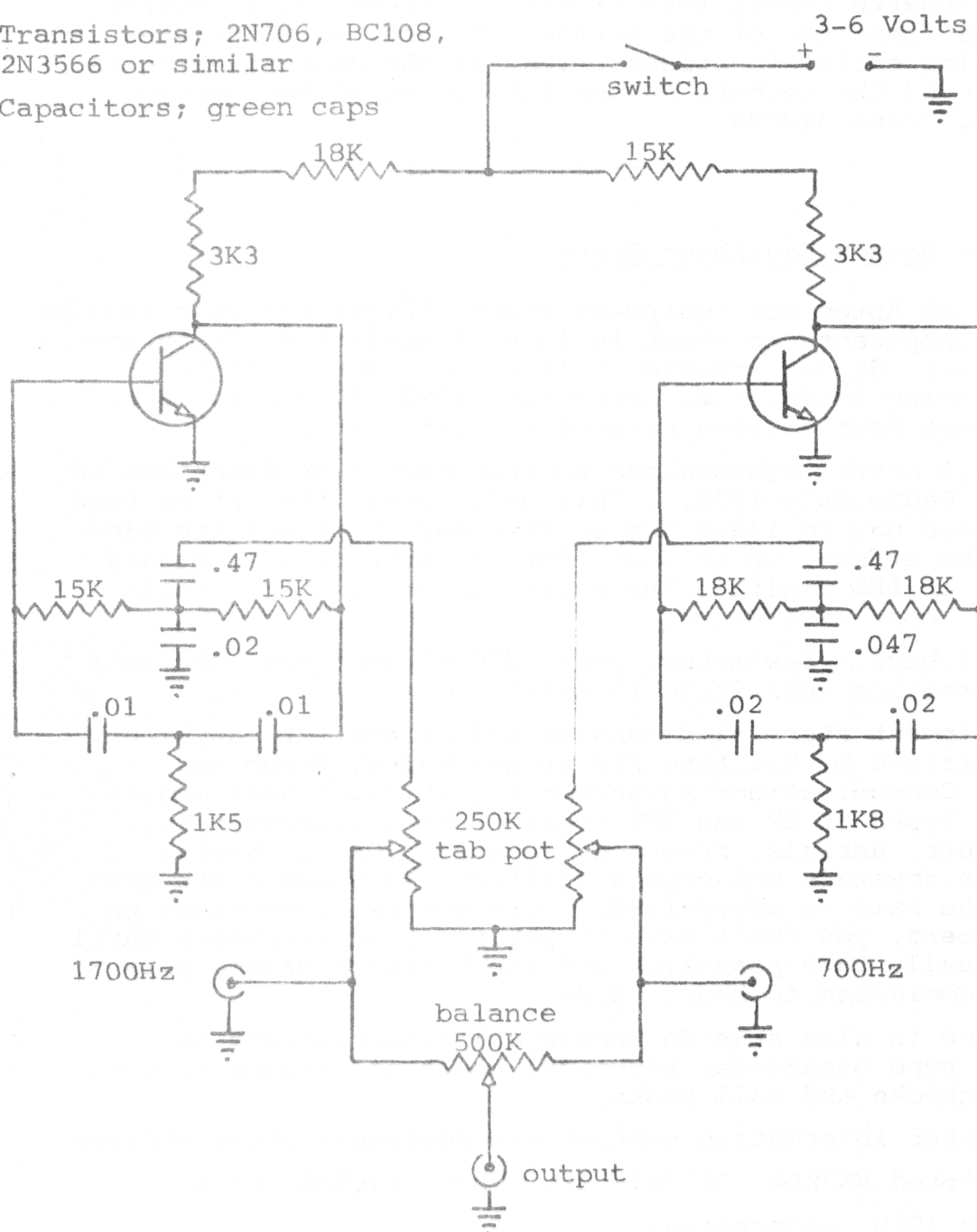
This article was received from Charlie VK3ACR and is described as been very stable.

The 1700 Hz and 700 Hz outlets are only required if you need separate outlets, you will note that you get the same effect if you swing the balance control from one side to the other to get separate frequencies.

The tab pots are for adjusting the output of each oscillator, I found that the central position is about right. The tab pots are of the 30¢ variety although they could be replaced by 250K fixed resistors if you like, taking the output for the balance control from the end farthest from earth.

Transistors; 2N706, BC108,
2N3566 or similar

Capacitors; green caps



MODERN SOLID STATE CONVERTERS

VHF CONVERTER KITS

Modern solid-state, high performance converters for 28/52/144 MHz bands. Featured in February E.T.I. p.63.

28 MHz/ETI707B	\$11
52 MHz/ETI707B	\$11
144 MHz/ETI707A	\$14

These converter kits are simple, easy to construct and align.

• 28/52 MHz (ETI 707B)

This is a tried and proven design and was featured in the January issue of ELECTRONICS TODAY INTERNATIONAL. Noise figure on 10 m or 6 m is a little meaningless but this converter produces a noise figure of around 2 dB. Gain is 20 dB or greater, bandwidth is 3 MHz on 6m, 2 MHz on 10m, spurious responses — 50 dB or better. Choice of IF frequencies to suit yourself. Please specify 28 MHz or 52 MHz operation. Crystal not supplied. Fibreglass p.c. board. Value at ... \$11 or just the p.c. board ... \$3.10

• 144 MHz (ETI 707A)

Naturally another simple converter. An original 6UP design, this was also featured in the January 1976 issue of ELECTRONICS TODAY INTERNATIONAL. This converter was designed for low noise (3 dB or better) and low crossmod. performance. Gain is adjustable, with a maximum of about 20 dB. Bandwidth is also adjustable between about 0.5 MHz and more than 1 MHz. Spurious responses are down 50 dB or better. Choice of IF frequencies to suit yourself. No neutralization. Crystal not supplied. Fibreglass p.c. board. What more could you want for ... \$14 or p.c. board only ... \$3.50

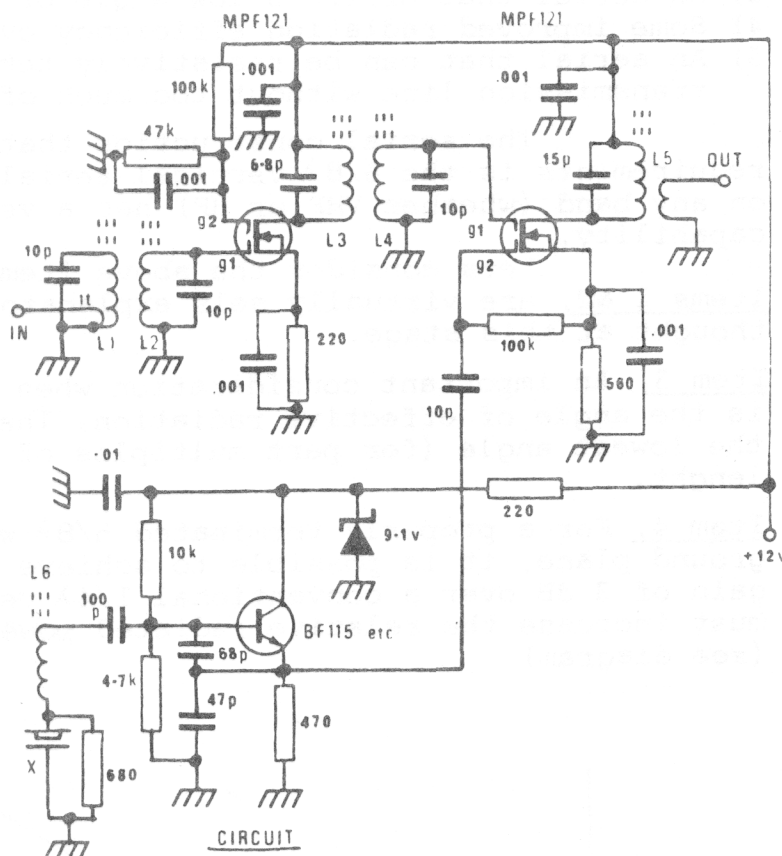
• 432 MHz (6UP-004)

The famous design by VK5QZ — now a standard of sorts! Improved p.c. board. This is probably the simplest way to begin on the UHF bands. A simple and straightforward design that produces good performance ... noise figure approx. 4 dB, JFET front end, gain of 10-15 dB, IF of 28 MHz or 52 MHz although some constructors have used 146 MHz successfully for FM net operation. Bandwidth approx. 4 MHz. Fibreglass p.c. board. Crystal not supplied. Complete with straightforward instructions. Head for the frontiers for ... \$14 or p.c. board only ... \$3.35

• MARKER (6UP-006)

This provides harmonics to 1296 MHz from a 1 MHz crystal or to 432 MHz from a 100 kHz crystal. Can accept crystals to 15 MHz. Uses 5 transistors. Crystal not supplied. Find the band edge for ... \$7 or p.c. board only ... \$2.55

PACK & POST on kits is 60c per kit.



send s.a.e. for details on coil components, toroids, baluns & other kits and components

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in fact, if you have ever wondered where to get something, or perhaps where else, then this book is for you. It does not cater only for those who build lots of gear - even if you only read about amateur radio, you need this book. It also tells you where to get the things you like to read!

AMATEUR COMMUNICATIONS ADVANCEMENTS

P.O. BOX 57, ROZELLE 2039

Some practical thoughts when considering a vertical aerial.

by Trevor Briggs VK7TB

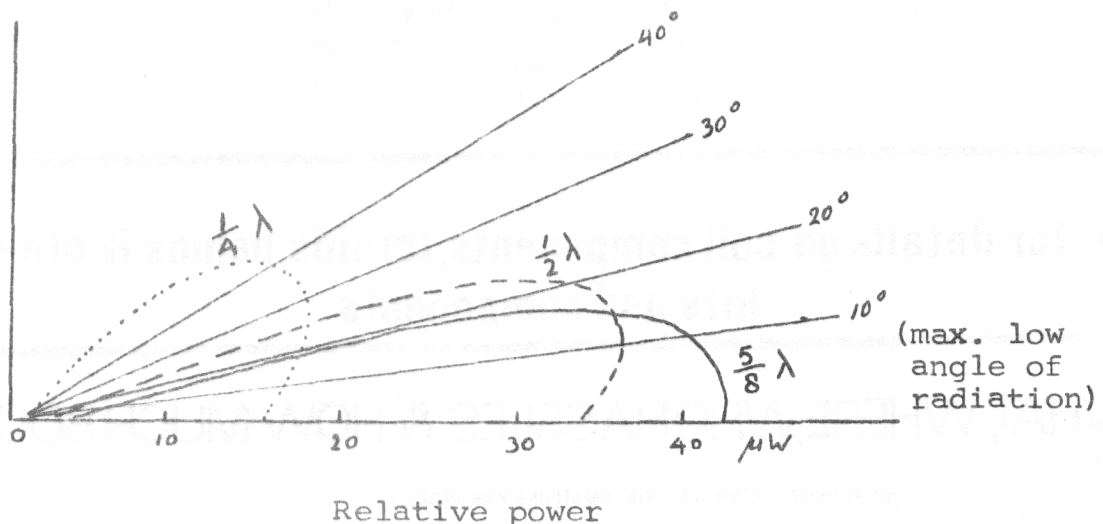
- 1) The need for an omni directional aerial.
- 2) The need for an aerial construction that is practical.
- 3) An aerial that offers a low angle of radiation.
- 4) Some improved radiation efficiency over a simple $\lambda/4$ vertical.
- 5) An aerial that can be resistively terminated to a piece of transmission line without too much of a mechanical problem.

The aerial construction that satisfies the above requirements is the $5/8\lambda$ vertical aerial. A $5/8\lambda$ vertical when used on any band (whether VHF or HF) has a very useful radiation capability.

Lets consider the above items individually,
Items 1 & 2, are virtually self explanatory and require no further thought at this stage.

Item 3, An important consideration when selecting an aerial system is the angle of effective radiation. The $5/8\lambda$ vertical offers the lowest angle (for part multiples of a λ) for a given aerial length.

Item 4, For a properly terminated $5/8\lambda$ whip with a satisfactory ground plane, it is possible to achieve an increase of aerial gain of 3 dB over a conventional $1/4\lambda$ vertical aerial. This then must increase the relative radiated power from the aerial.
 (see diagram)

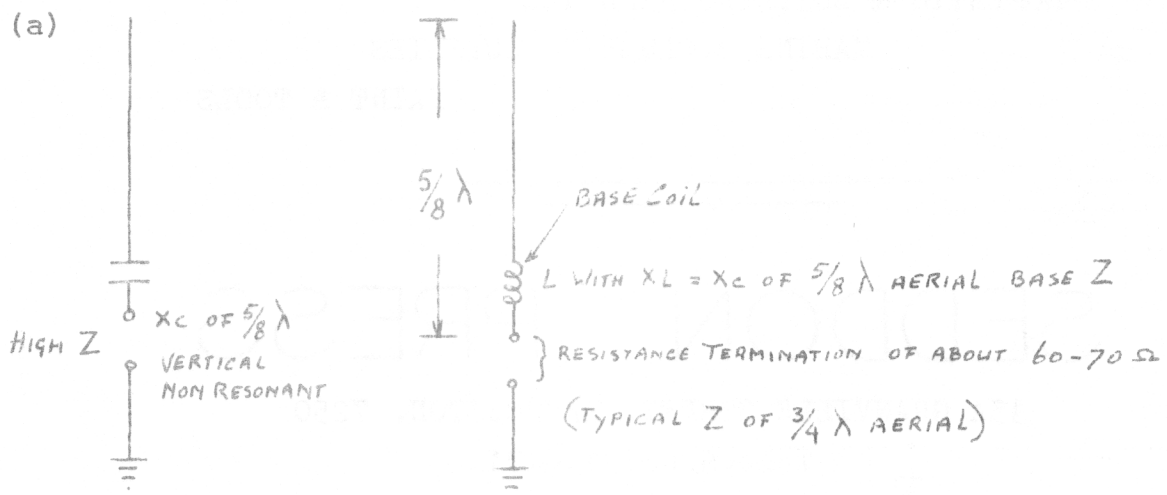


Item 5, A $5/8$ vertical is a little more difficult to terminate than a $1/4$ vertical, but never the less this can be achieved without too much difficulty.

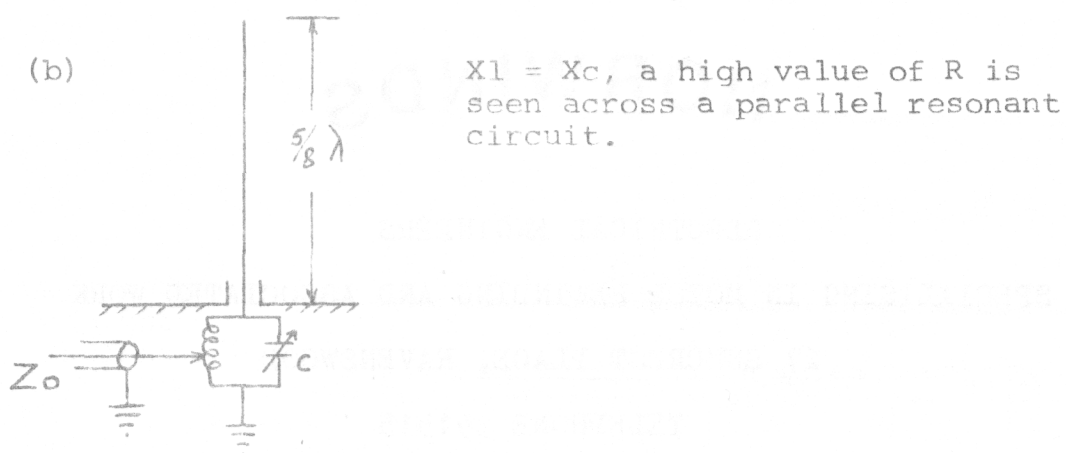
A $5/8$ vertical is a non resonant aerial and it has a base impedance which is quite capacitive reactive. So two problems exist, (1) the propagated electromagnetic energy from your transmission line will see a non resonant aerial and (2) it will see a value of X_c as a high Z , I think you will agree a most unsatisfactory situation.

The method in overcoming these problems is first to fool the R.F. into seeing a $3/4$ aerial so it will be absorbed from the transmission line and radiated by the aerial (now effectively resonant). This can be achieved in several ways.

In diagram (a) the large X_c has been balanced out by the coil L enabling a resistive termination to be made. However the termination Z may not match the Z_o of your transmission line.



It is important to note that the L is used to effectively balance out the high X_c to give you a resistive termination at resonance and that L should not be adjusted to improve the S.W.R., for this reason a more flexible matching system is shown in drawing (b).



With careful adjustment of C and the position of the tap a resistive transformation occurs between Z_o and the base impedance of the aerial. A low S.W.R. can be obtained with this type of matching system.

Trevor VK7TB

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